

Mobile Miter Saw Stand

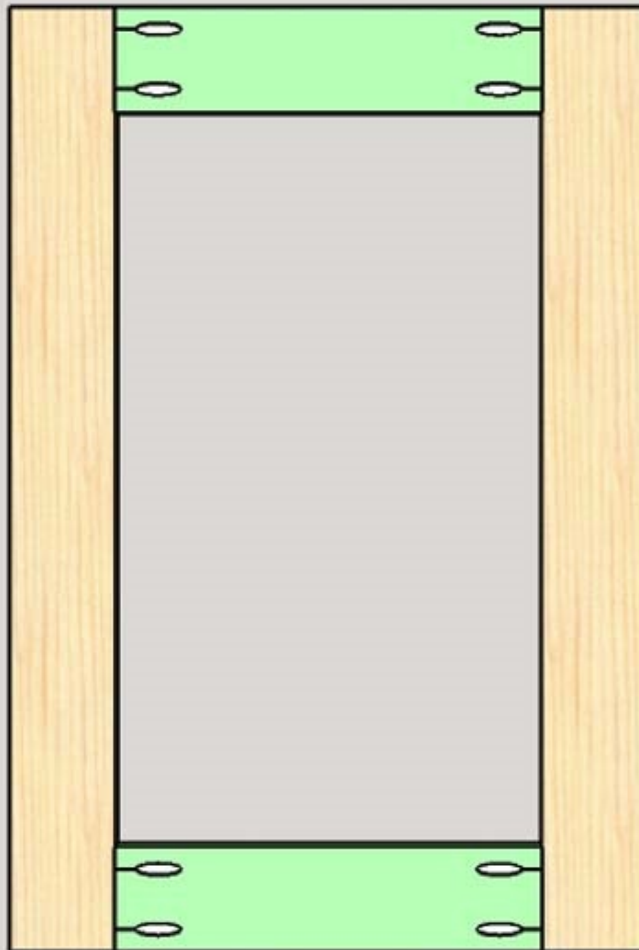
Tools and Materials

- Wood
- 1-1/4" Pocket Screws
- 3/4" Wood Screws
- 1-1/4" Wood Screws
- 1-1/2" Wood Screws
- 2" Wood Screws
- (2) 1/4" x 3-1/2" Lag Bolts
- (2) 1/4" x 2" Lag Bolts
- (5) 1/4" x 1-1/4" Lag Bolts
- (12) 1-1/2" Lag Screws
- (56) 1/4" Washers
- (8) 1/4" Lock Nuts
- (1) 1/4" Wing Nut
- (2) 12" Piano Hinges
- T-track
- (4) 2" casters
- Tape Measure
- drill
- miter saw
- compass
- Circular Saw
- Forstner bits (1/4", 1/2" and 7/8")
- countersink drill bit set

Step 1. Make the Sides

Cut 4 pieces of 1×4 for the stiles. Cut 6 pieces of 1×4 for the rails and drill pocket holes in each end. 4 of these pieces will be used in this step and 2 pieces will be used in Step 2.

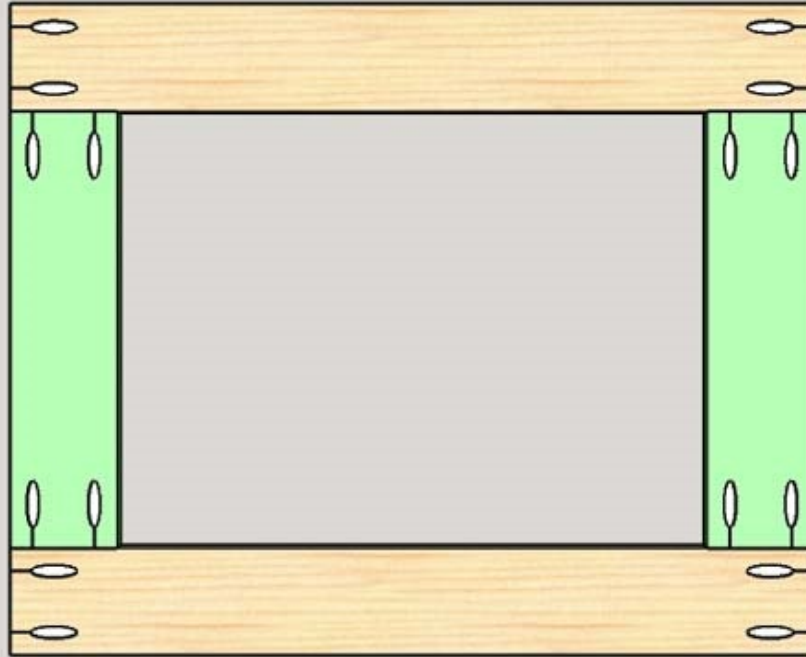
Apply glue to the ends of 2 rails, position on 2 stiles and clamp. Attach using pocket screws. Repeat for the other side.



Step 2. Make the Bottom

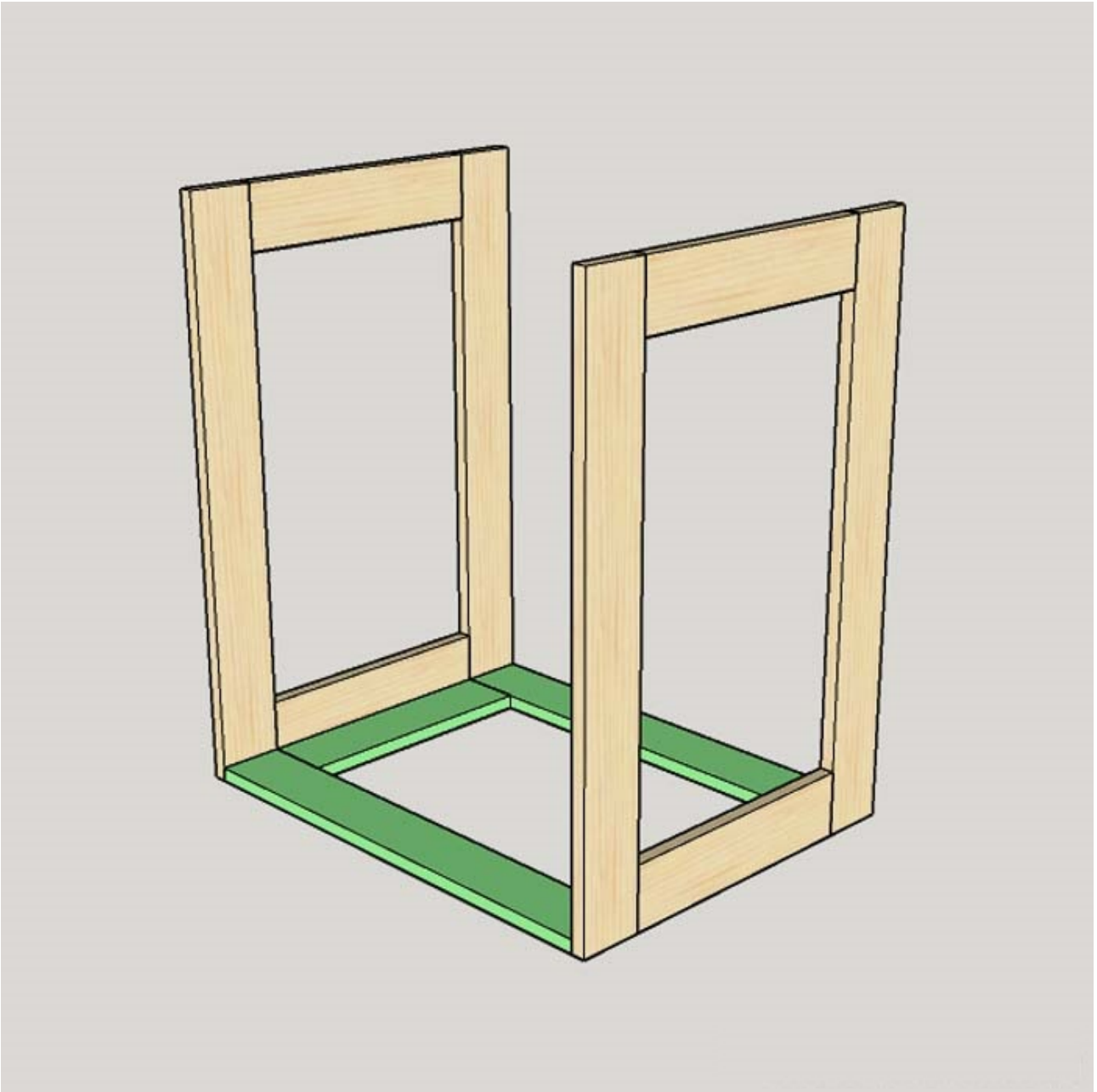
Cut 6 pieces of 1×4 and drill pocket holes in each end. 2 of these pieces will be used in this step and 4 pieces will be used in Step 4.

Apply glue to the ends of the pieces from Step 1, position on 2 of the pieces from this step and clamp. Attach using pocket screws.



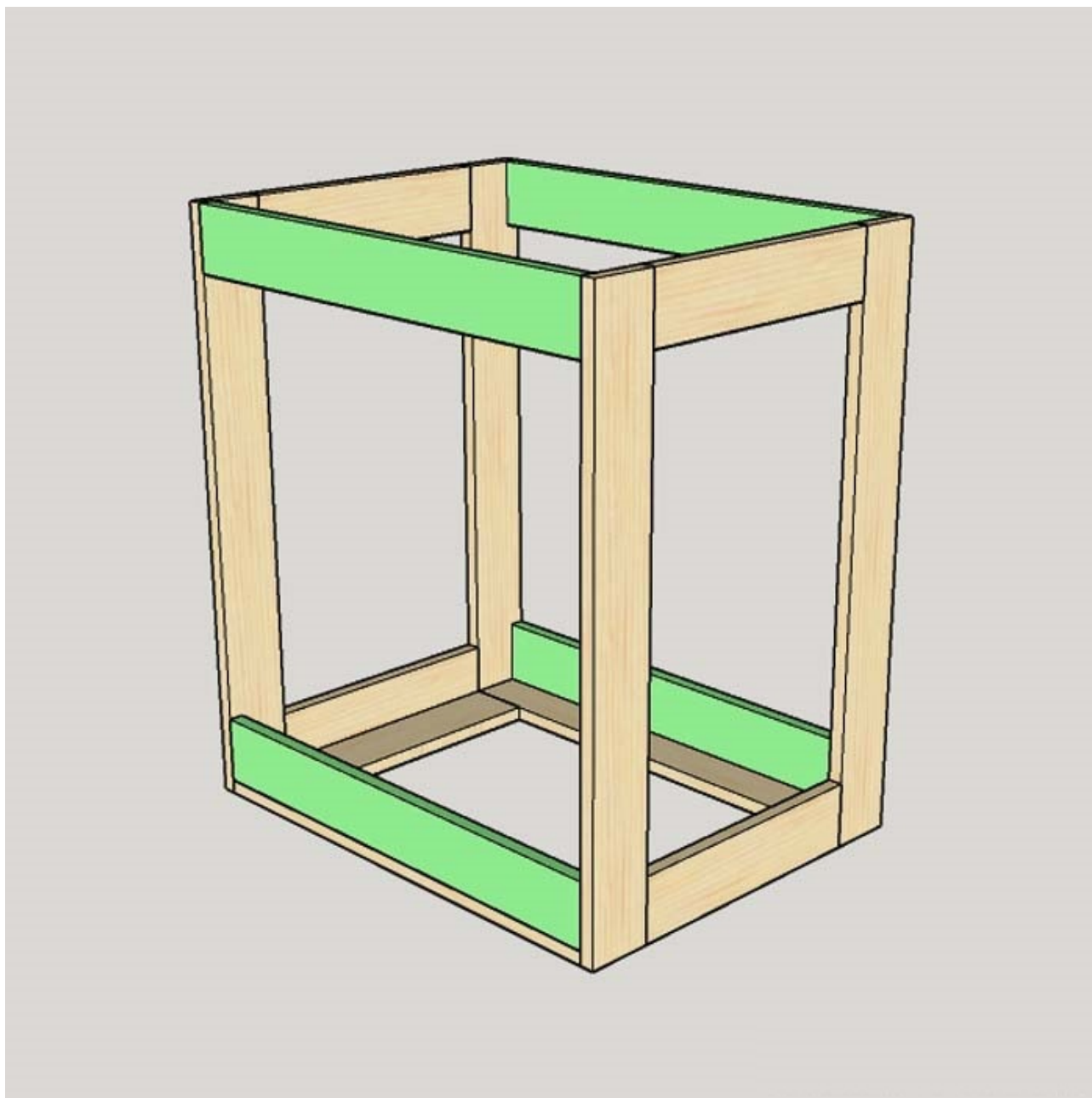
Step 3. Attach the Bottom

Apply glue to the edges of the bottom and clamp to the sides. Attach using pocket screws. Also, drill several countersink holes in the bottom rails of the sides and attach using wood screws.



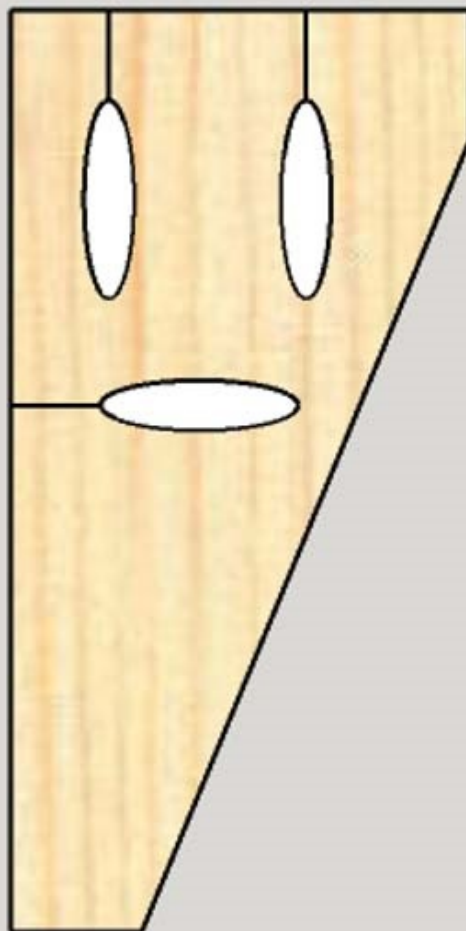
Step 4. Attach the Rails

Apply glue to the rails (from Step 2), position on the sides and clamp. Attach using pocket screws.

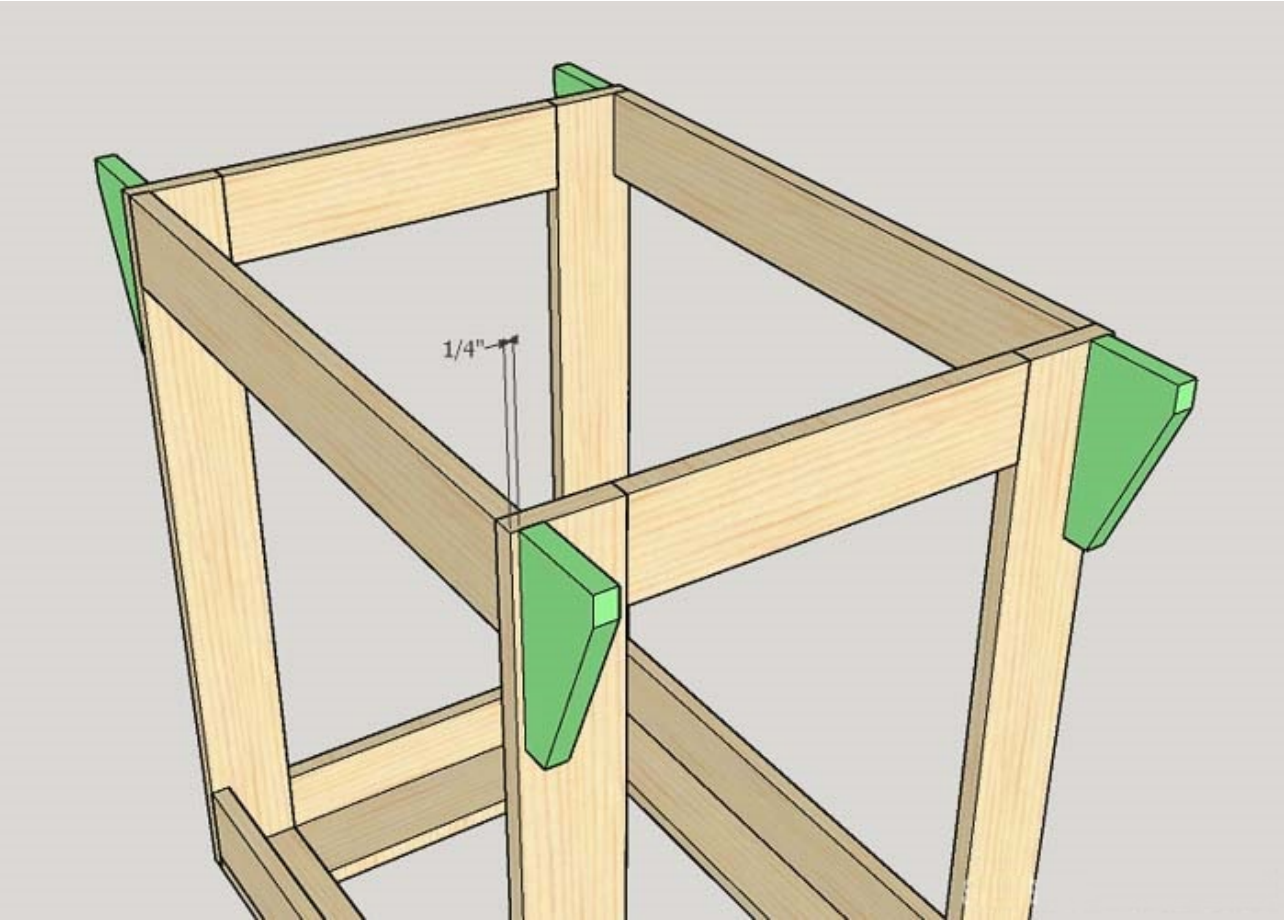


Step 5. Make the Top Supports

Cut 4 pieces of 1x4. Measure in at the top and bottom. Connect the marks and cut an angle with a circular saw crosscut. Then drill pocket holes in each support. Be sure to make 2 right supports and 2 left supports. This way the pocket holes will face inward rather than outward.

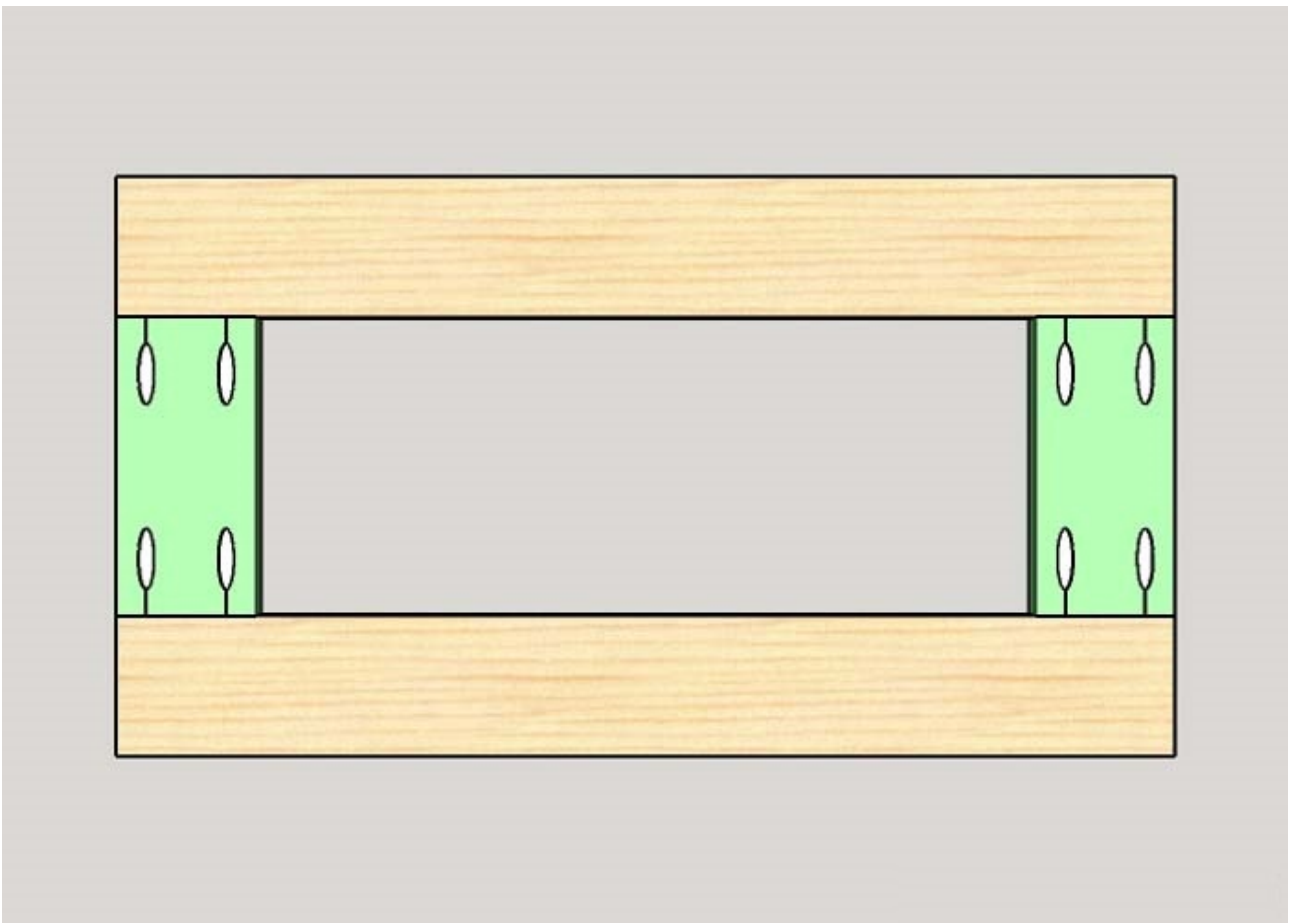


Attach the top supports to the base with wood screws and pocket screws.

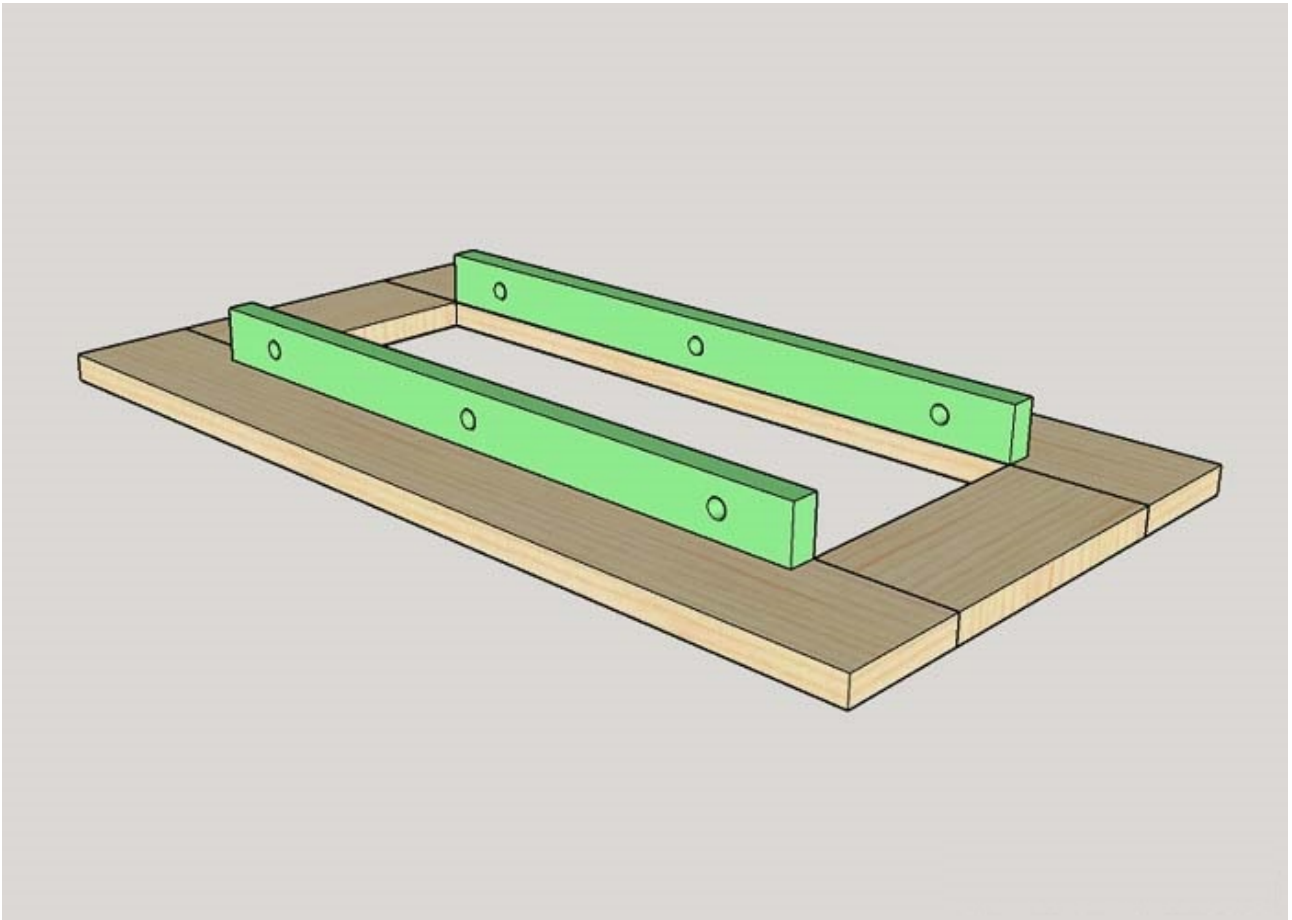


Step 6. Make the Wing Frames

Cut 4 long pieces of 1×4. Cut 4 short pieces of 1×4 and drill pocket holes in each end. Apply glue to the ends of 2 short pieces, position on the long pieces and clamp. Attach using pocket screws. Repeat for the other frame.



Cut 4 pieces of 1×2. Drill several countersink holes on the edge of each piece. Also, drill 3 holes in the side of each piece. Apply glue to the edge, position on the inside of the wing frame and clamp. Attach using wood screws. Repeat for the other pieces.



Step 7. Paint (Optional)

I painted the base and wings of the miter saw cart because I wanted it to look like a store-bought piece of workshop furniture. I lightly sanded all of the parts and sprayed a coat of primer. When the primer was dry I sprayed the stand with two coats of “Casual Gray” Behr High Gloss paint.

Step 8. Make the Top

Cut a $\frac{3}{4}$ " piece of plywood. Position the top on the stand and clamp. Attach the top supports using pocket screws.

Measure in on the front and back and drill several countersink holes. Attach using wood screws.

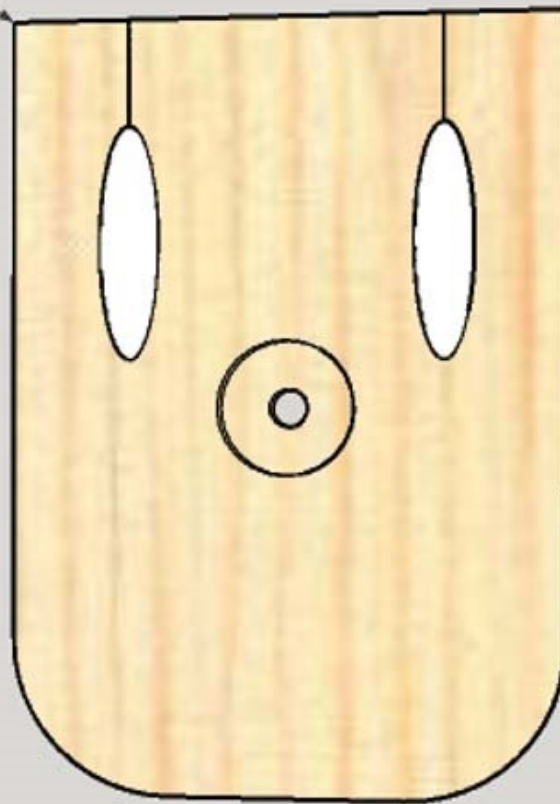


Step 9. Make the Arm Anchors

Cut 8 pieces of 1x4. Measure in on each corner and use a compass to draw an arc. I used a disc sander to round off the corners.

Next, I used a 7/8" Forstner bit and a 1/4" Forstner bit to drill holes that will connect the anchors to the arms.

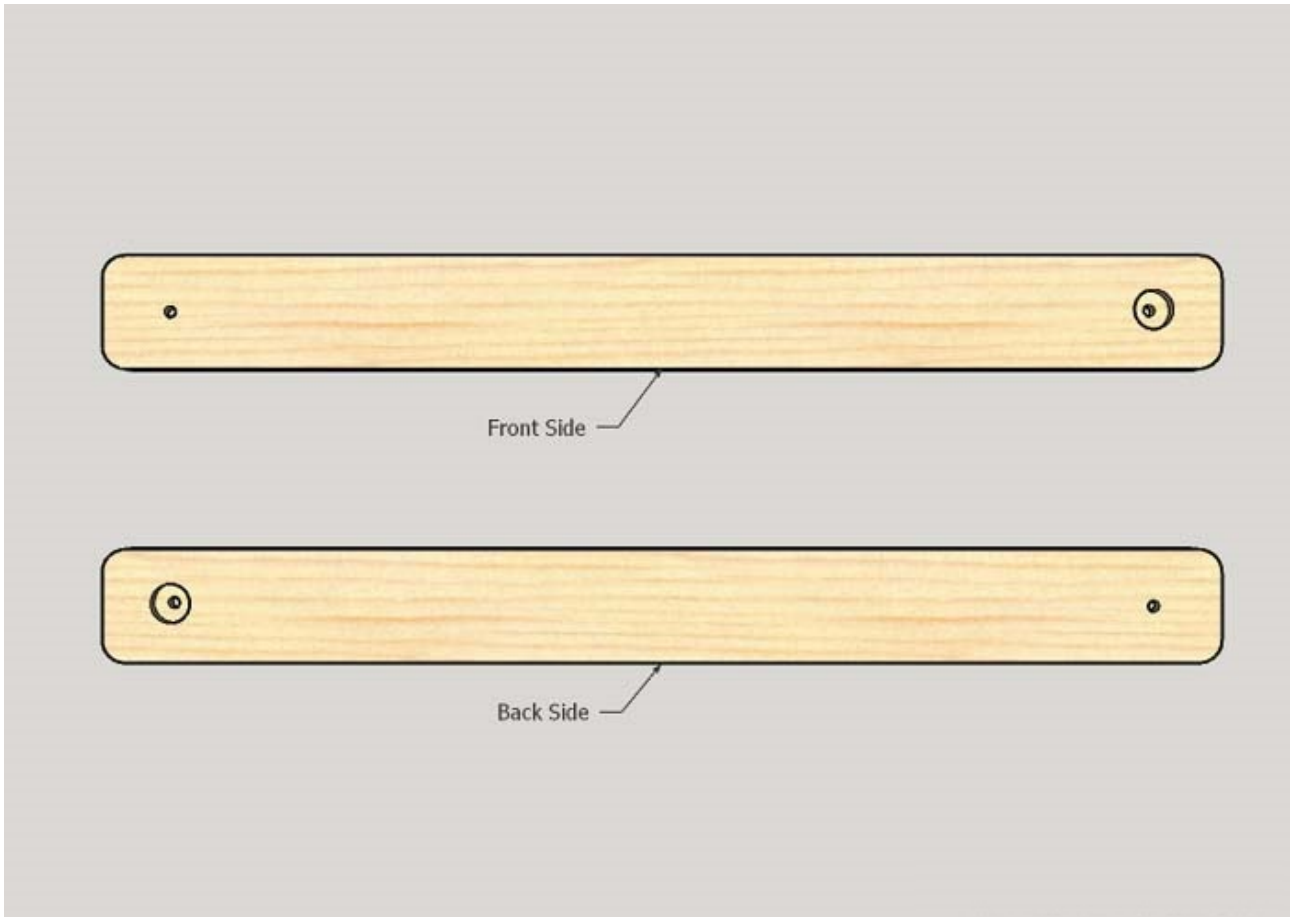
Make 8



Step 10. Make the Lower Arms

Cut 4 pieces of 1x3. Measure in on each corner and use a compass to draw an arc. I used a disc sander to round off the corners.

Next, I used a 7/8" Forstner bit and a 1/4" Forstner bit to drill holes on the opposite side of each arm. The holes will connect the arms to the anchors.

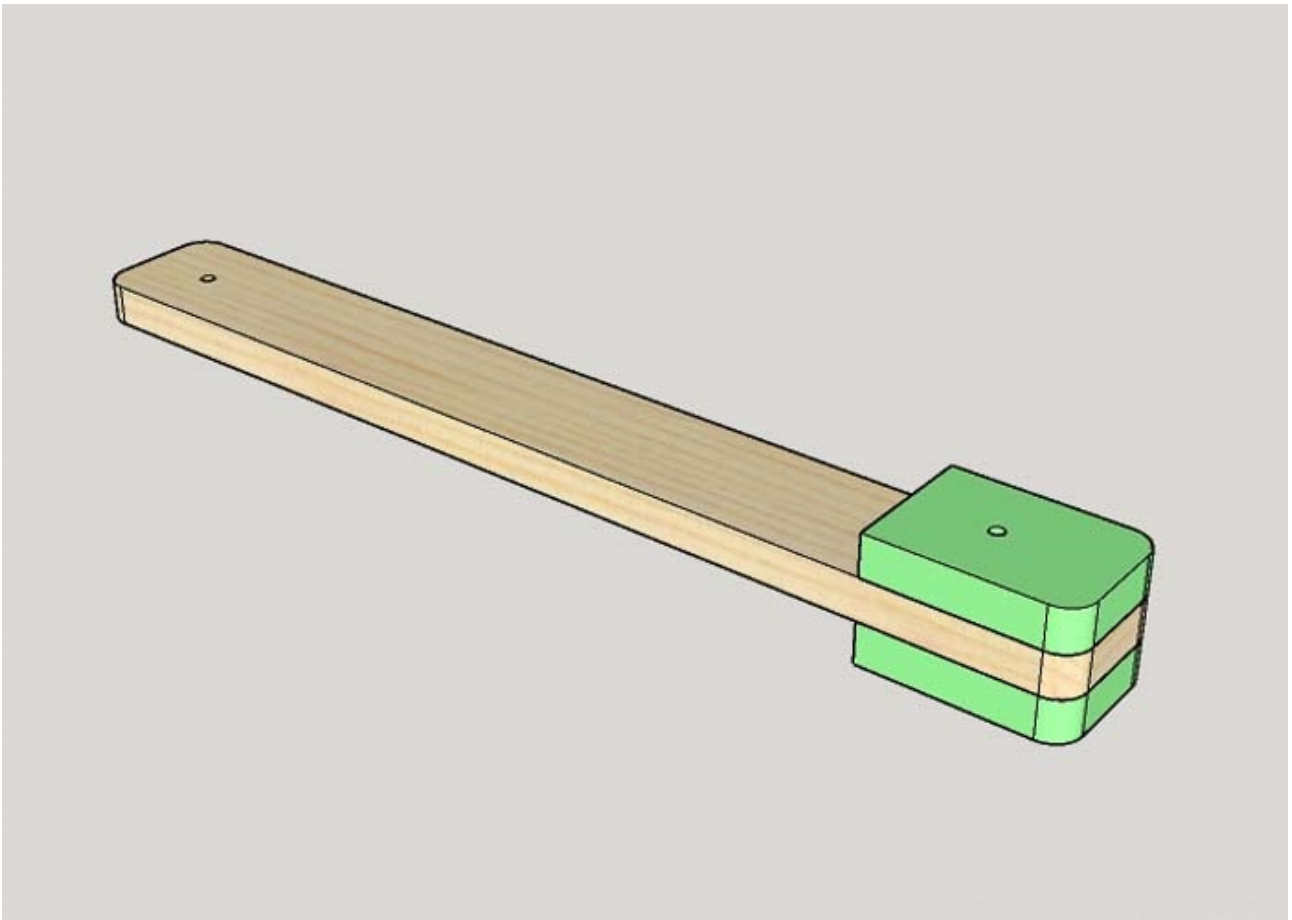


Step 11. Make the Upper Arms

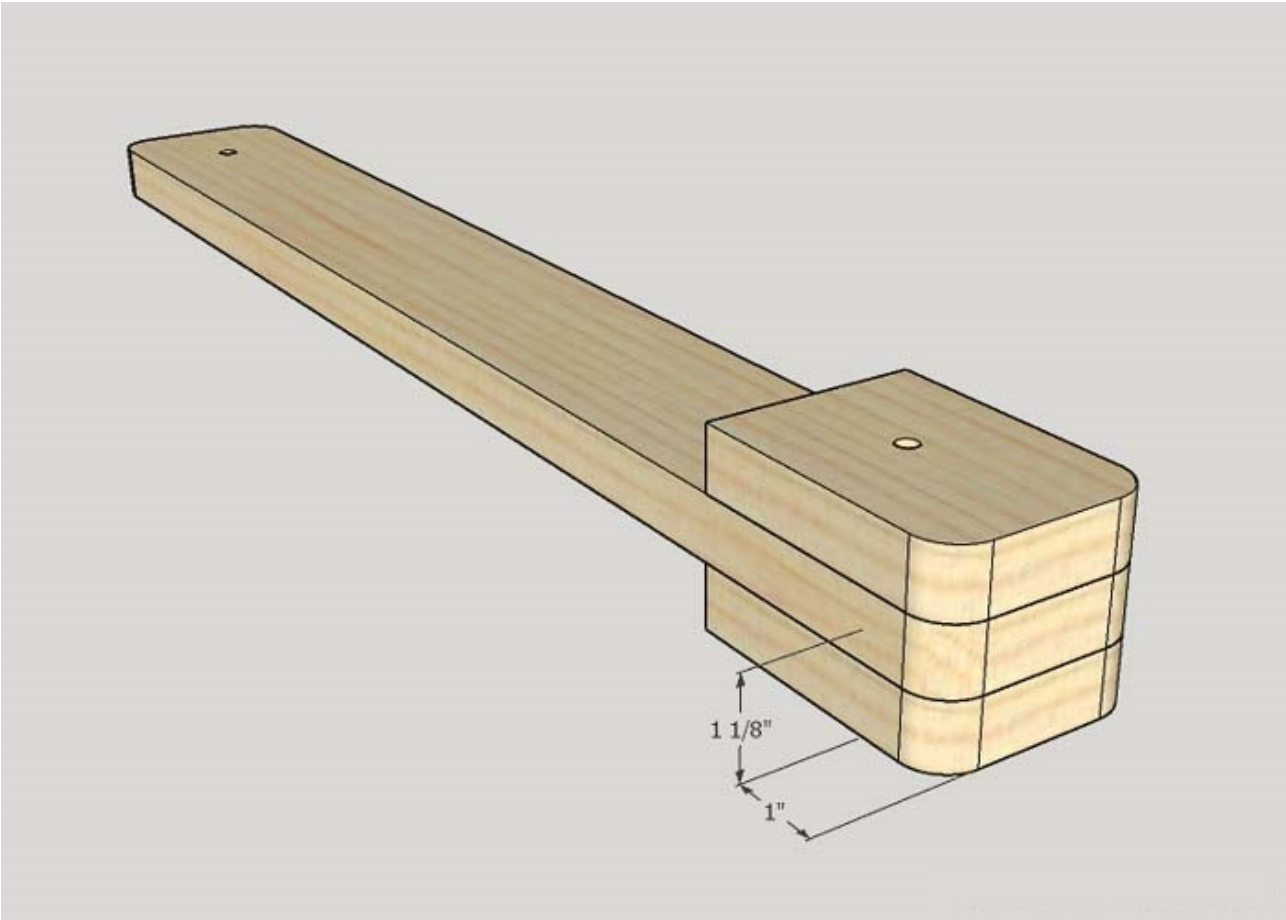
Cut 2 pieces of 1x3. Cut 4 pieces of 1x3. I used a 1/4" Forstner bit to drill through the end of each piece.

Apply glue to 2 small pieces, position on the end of an arm (I used a spare bolt to align the holes) and clamp. Repeat for the other arm.

When the glue is dry measure in on each corner and use a compass to draw an arc. I used a disc sander to round off the corners.



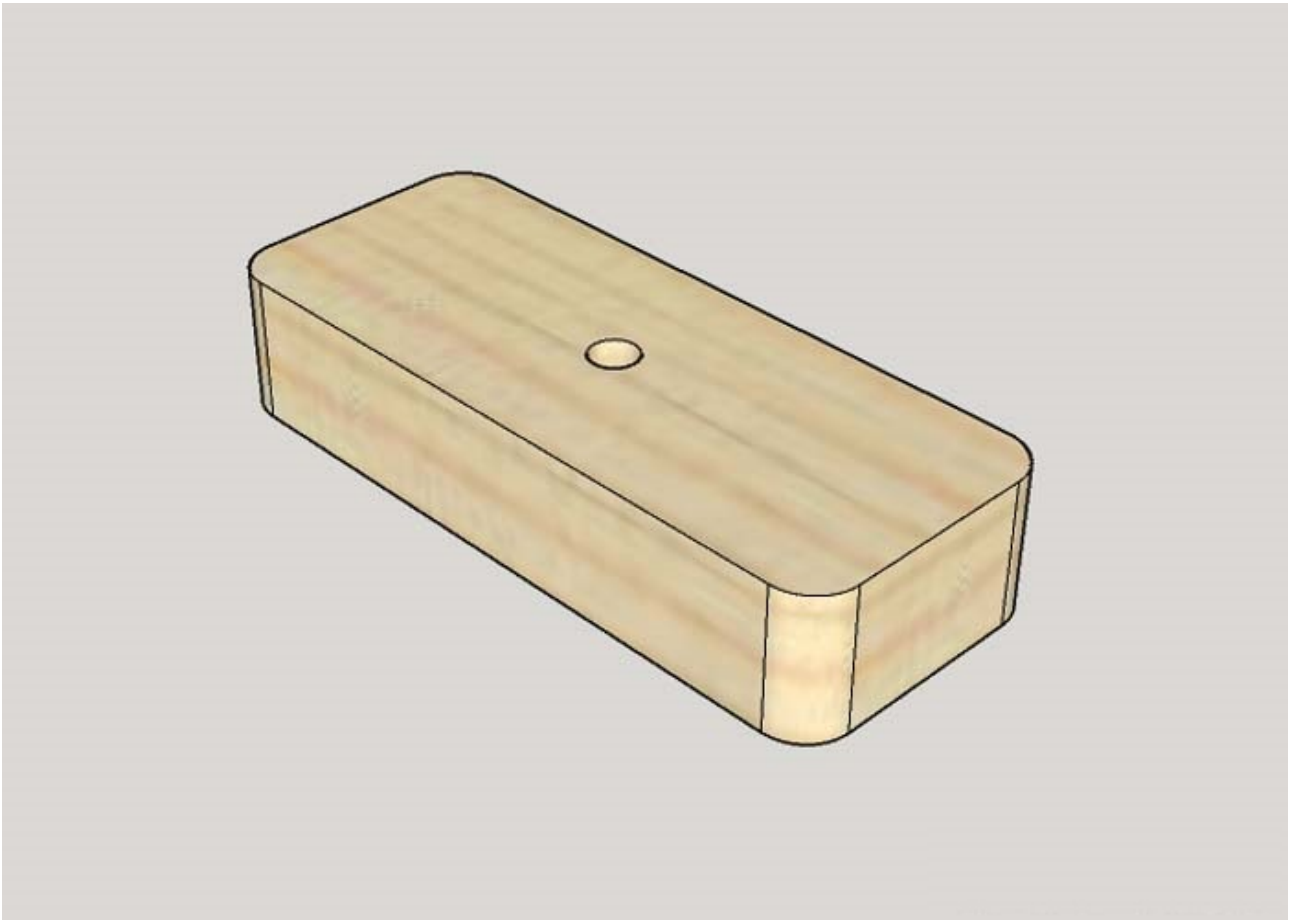
Next, I marked the location for the arm locks on the top and bottom side of the arm. I'll use these marks to attach the arm locks in Step 13.



Step 12. Make the Arm Locks

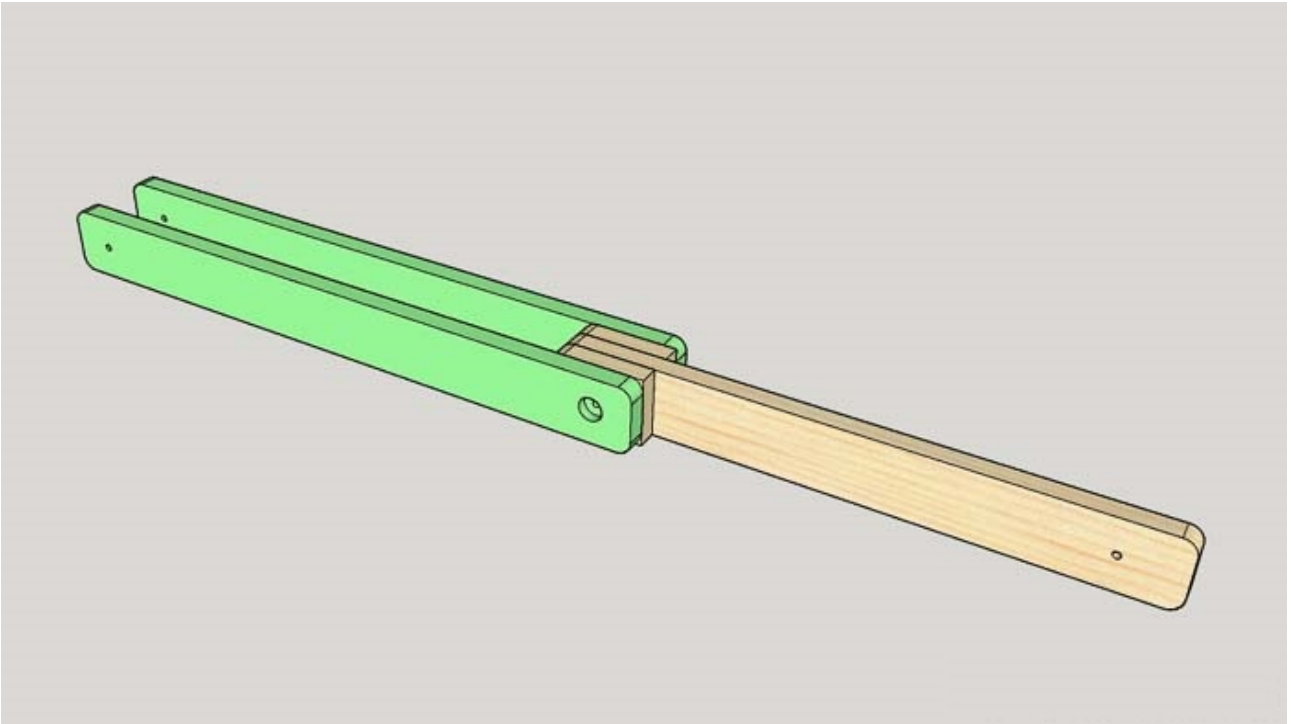
Cut 4 pieces of 1x2. The locks will be held in place with screws.

First I drilled countersink holes in the center of each piece. Then I drilled a hole inside the countersink hole. This will allow the lock to spin freely on the screw. Measure in on each corner and use a compass to draw an arc. I used a disc sander to round off the corners.



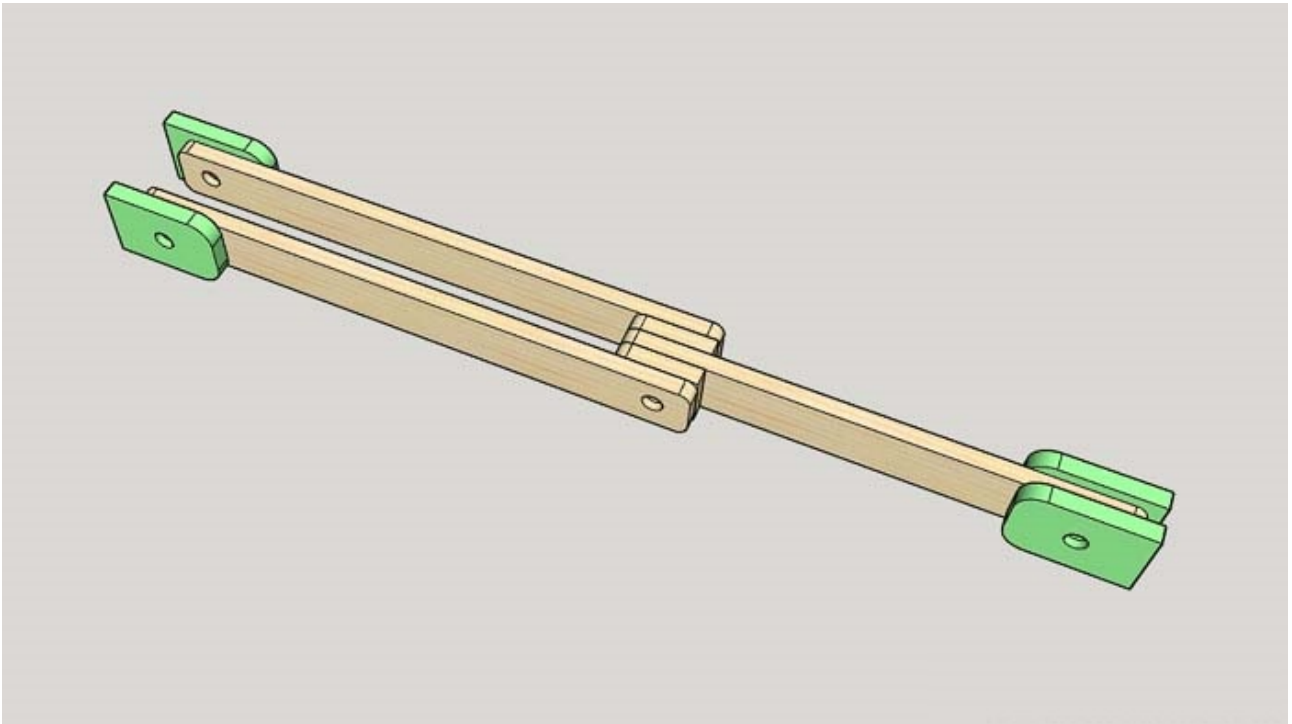
Step 13. Assemble the Arms

Layout 2 lower arms and 1 upper arm. Insert a bolt with a washer into the middle hole in the arms. Then place a washer on both sides of the upper arm. Attach using another washer and a lock nut. Tighten the nut but leave it loose enough so the arms can move freely. Repeat for the other set of arms.

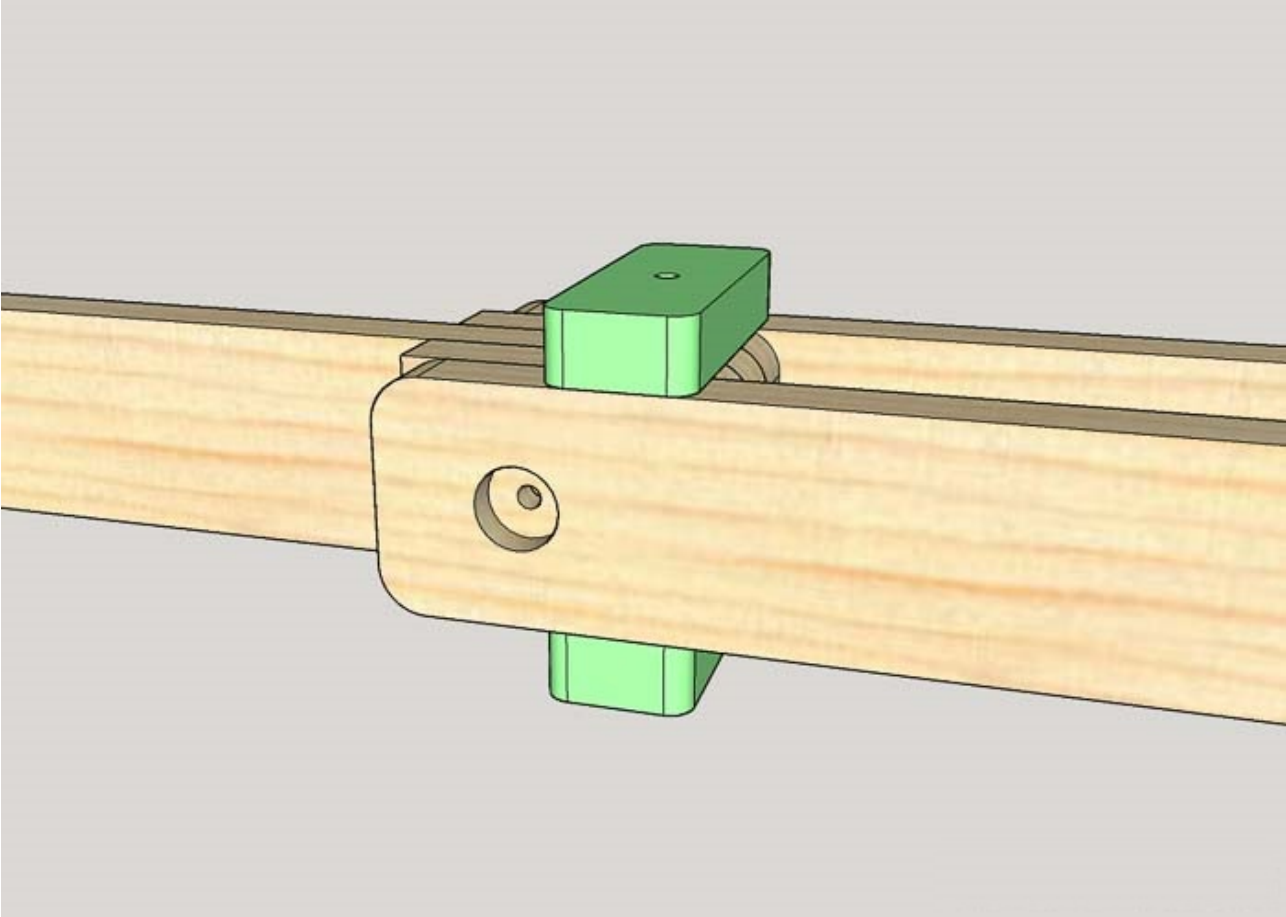


Attach 2 anchors to the upper arm. Insert a bolt with a washer into the upper arm hole and attach using another washer and a lock nut. Tighten the nut but leave it loose enough so the arms can move freely. Repeat for the other set of arms.

Attach 1 anchor to each lower arm. Insert a bolt with a washer (I needed to use three washers to prevent the nut from protruding beyond the back of the assembly) into the lower arm hole and attach using another washer and a lock nut. Tighten the nut but leave it loose enough so the arms can move freely. Repeat for the remaining anchors.



Attach the arm locks using wood screws.

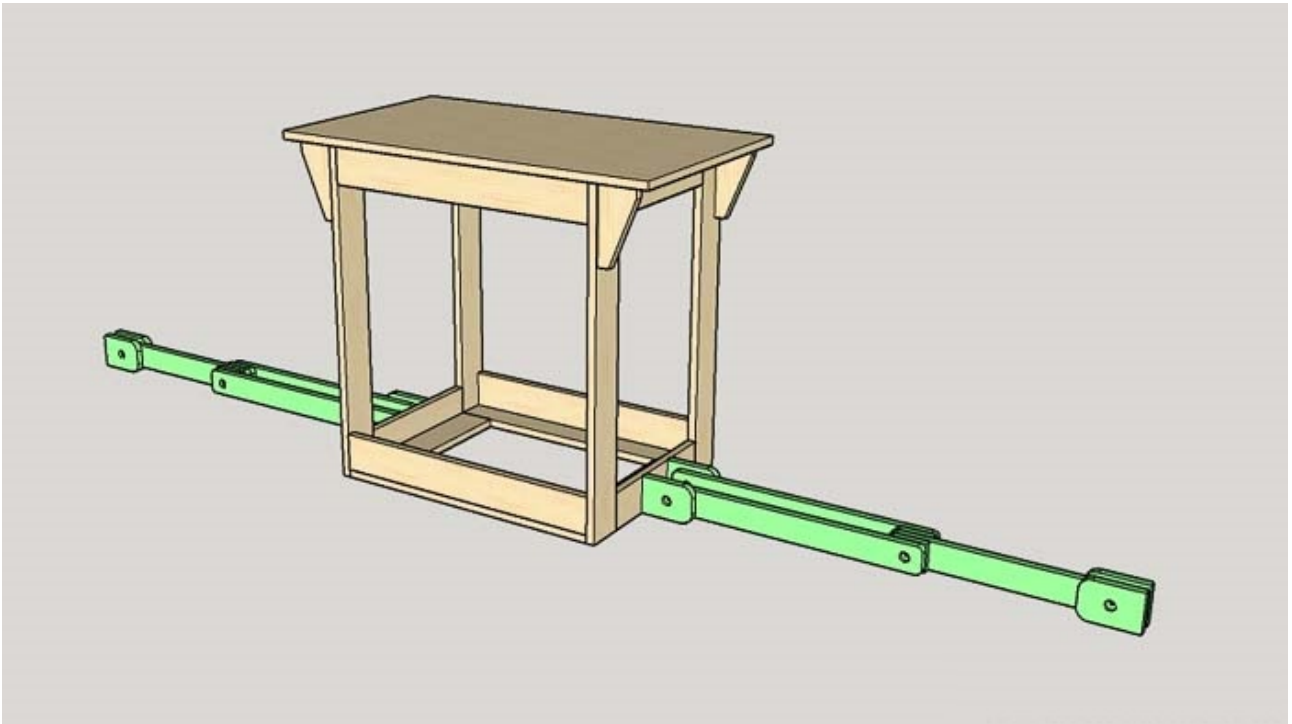


Step 14. Attach the Lower Anchors

Position an arm assembly on the base and flip the upper arms in between the lower arms. I inserted a few playing cards in between the upper arms and lower arms to act as spacers. This will ensure the arms will move freely later on.

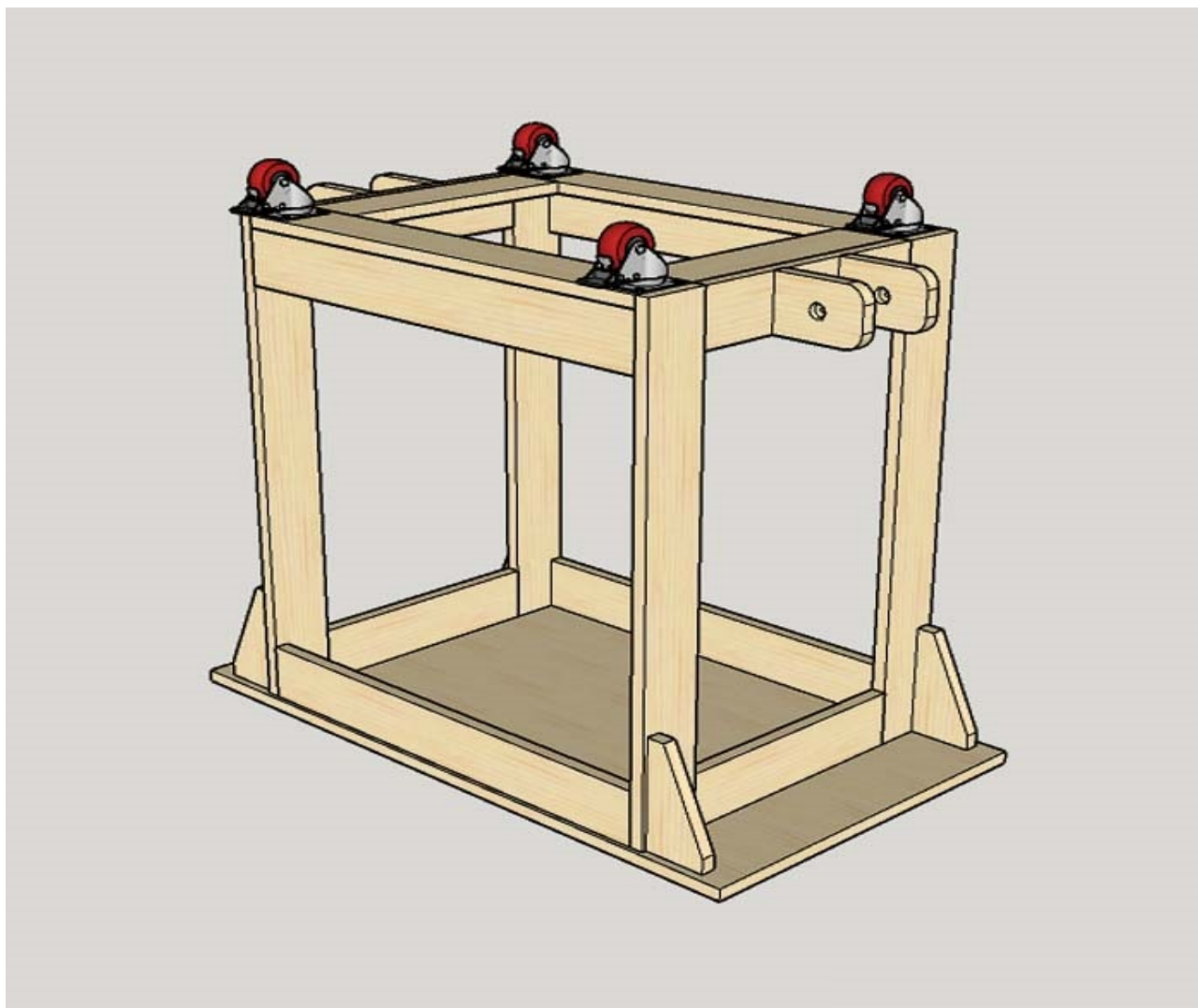
Center the assembly on the base and clamp in position. Attach the anchors using pocket screws.

Next, I temporarily removed the arms. I need to flip the base in the next step and this will prevent the arms from flopping around.



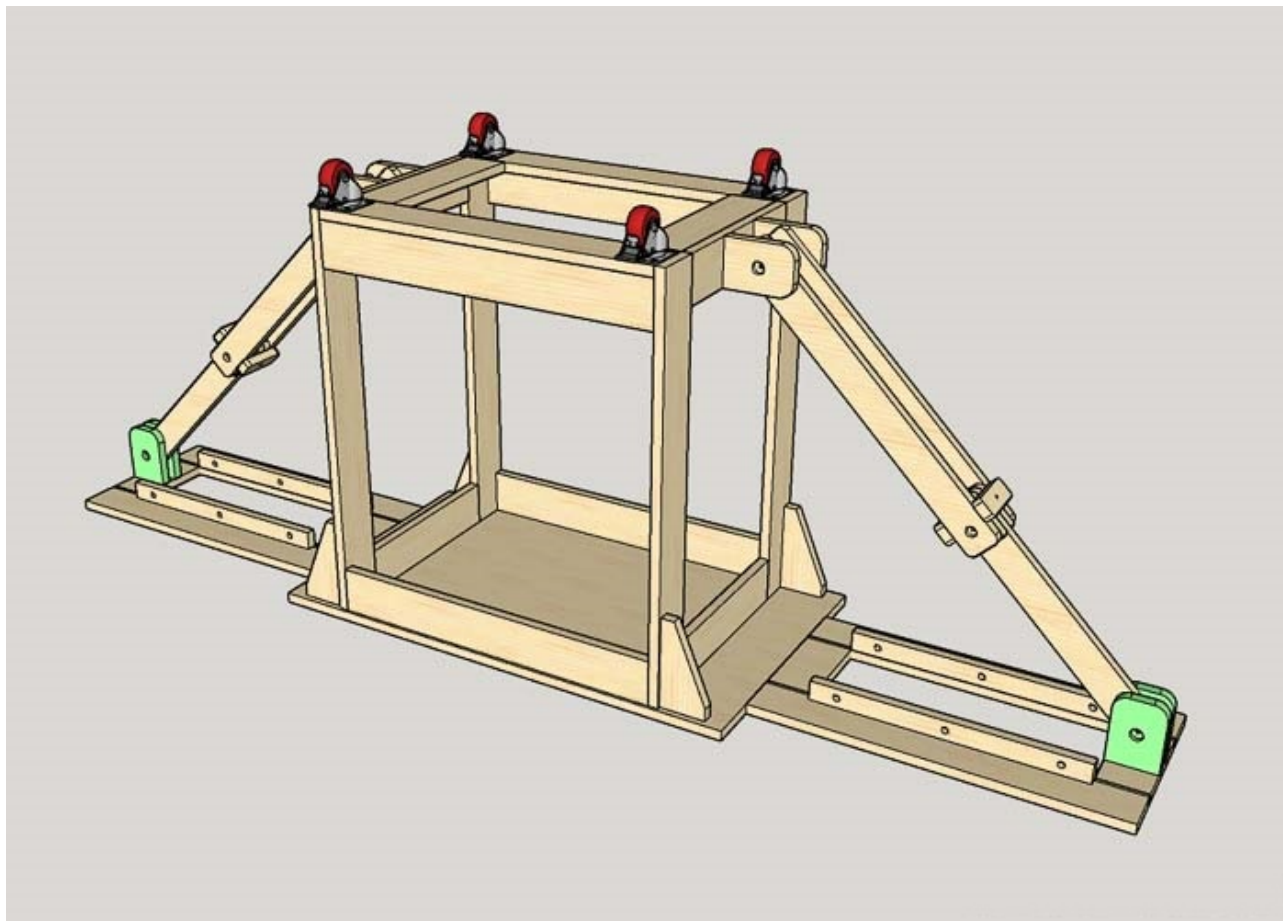
Step 15. Attach the Casters

Flip the base and attach one caster to each corner.

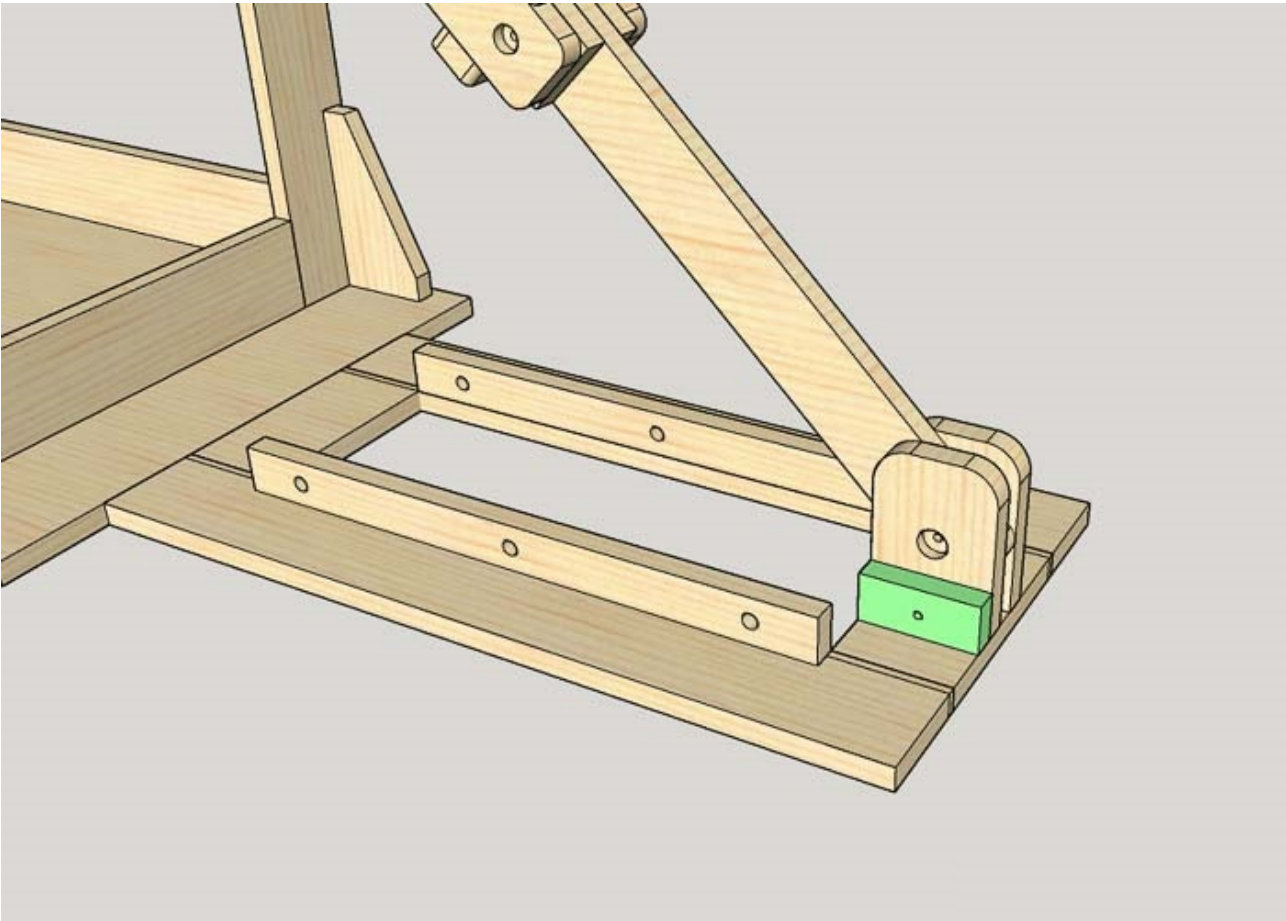


Step 17. Attach the Upper Anchors

Reattach the arms to the lower anchors. Center the upper anchors on the wing and clamp in position. Attach using pocket screws.

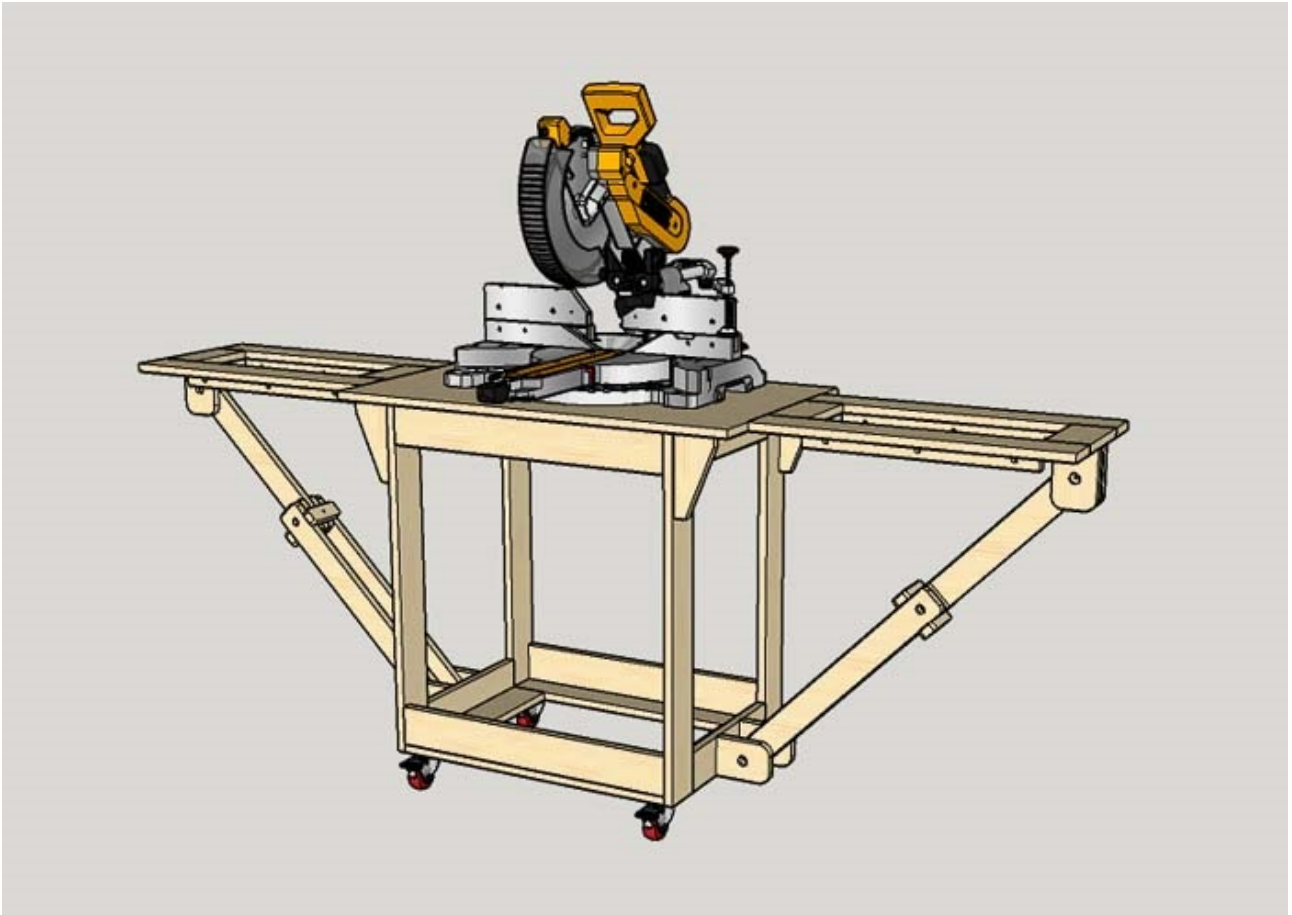


I attached 1 piece of 1x2 to the back of the upper anchor with a wood screw. This will help push the arm in the upright position when the wing is closed.



Step 18. Attach the Miter Saw

Center the miter saw from side to side and front to back. Drill holes in the top to match the mounting holes in the miter saw. Attach using bolts, washers, and nuts.



Step 19. Make the Wing Tables

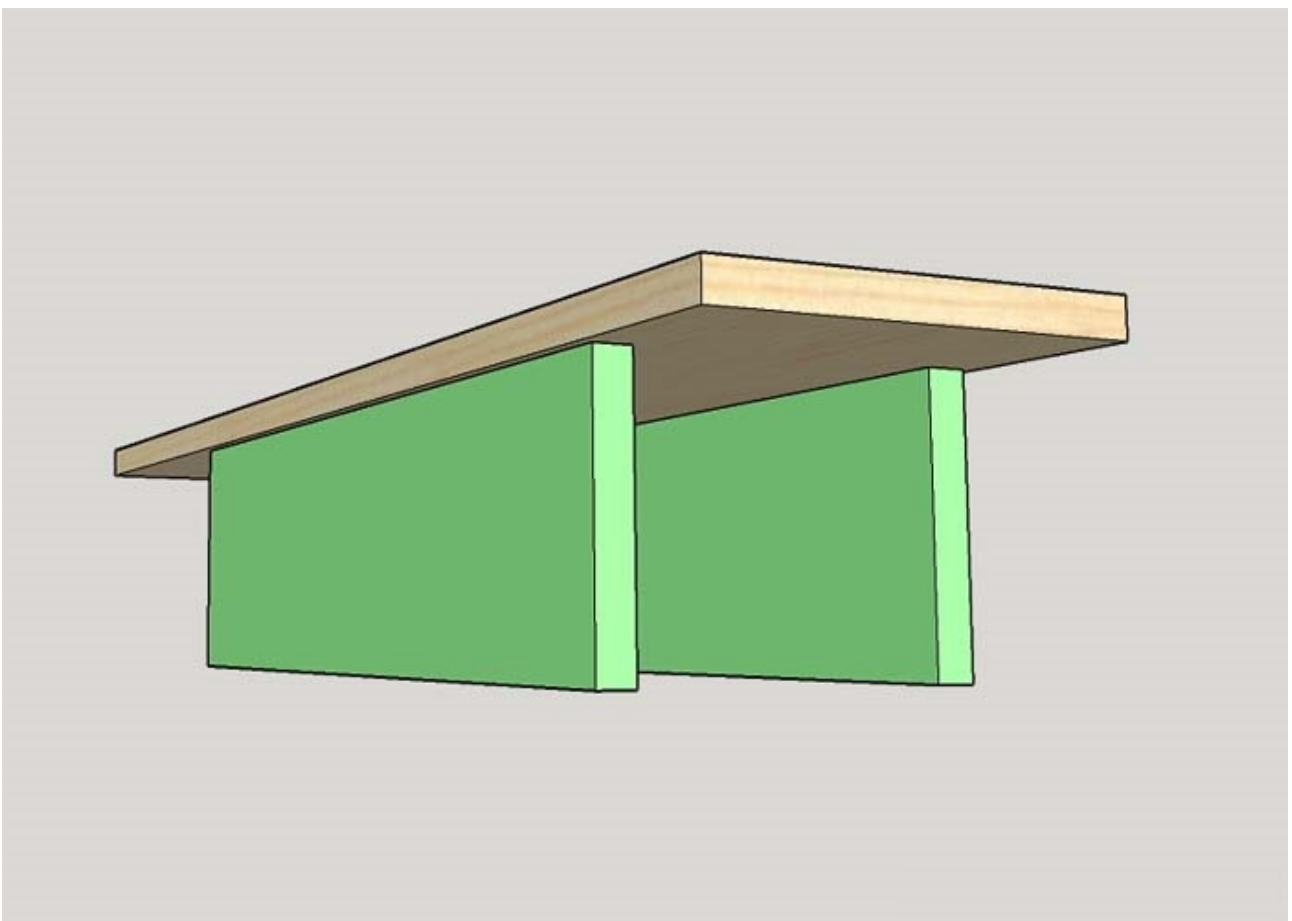
The dimension of each miter saw is a little different. The length of the wing tables is based on the distance from the end of the wing table to the side of the miter saw base. This means the length of the wing tables will be different for each saw.

To determine the length of your wing table raise the wings and measure from the end of the wing to the side of the miter saw. Then, subtract 1" from this measurement.

Use a circular saw or table saw to rip two pieces of $\frac{3}{4}$ " plywood to 8" and cut to your dimension.

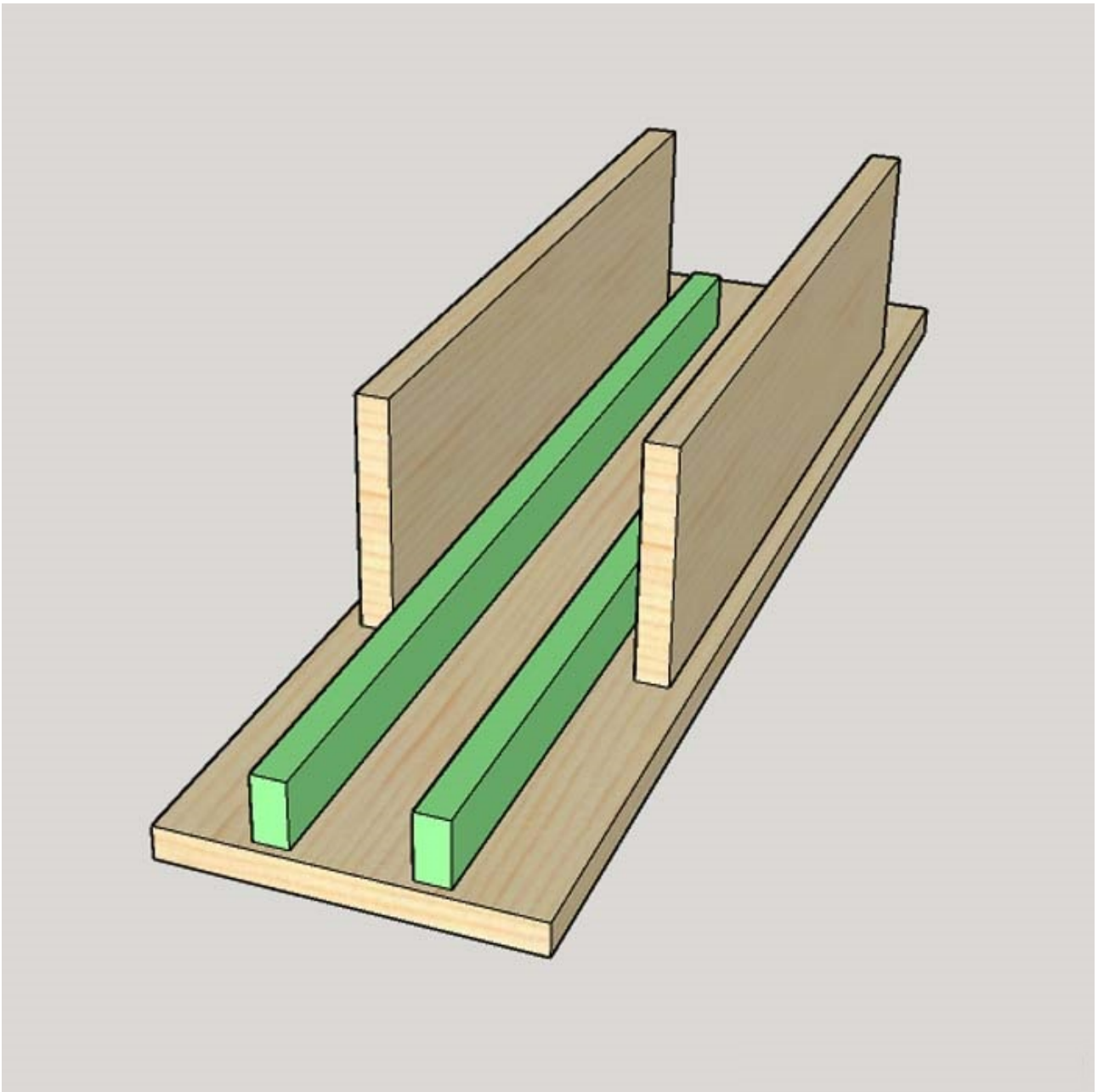
Cut 4 pieces of 1x6. These pieces need to fit inside the wing frames. They should be snug, but not too tight. Otherwise, it will be difficult to install the wing tables in the wing frames. Adjust to fit if necessary.

Position 2 pieces from the end of the wing tabletop and set in from each edge. Clamp in position, drill several countersink holes and attach using wood screws.



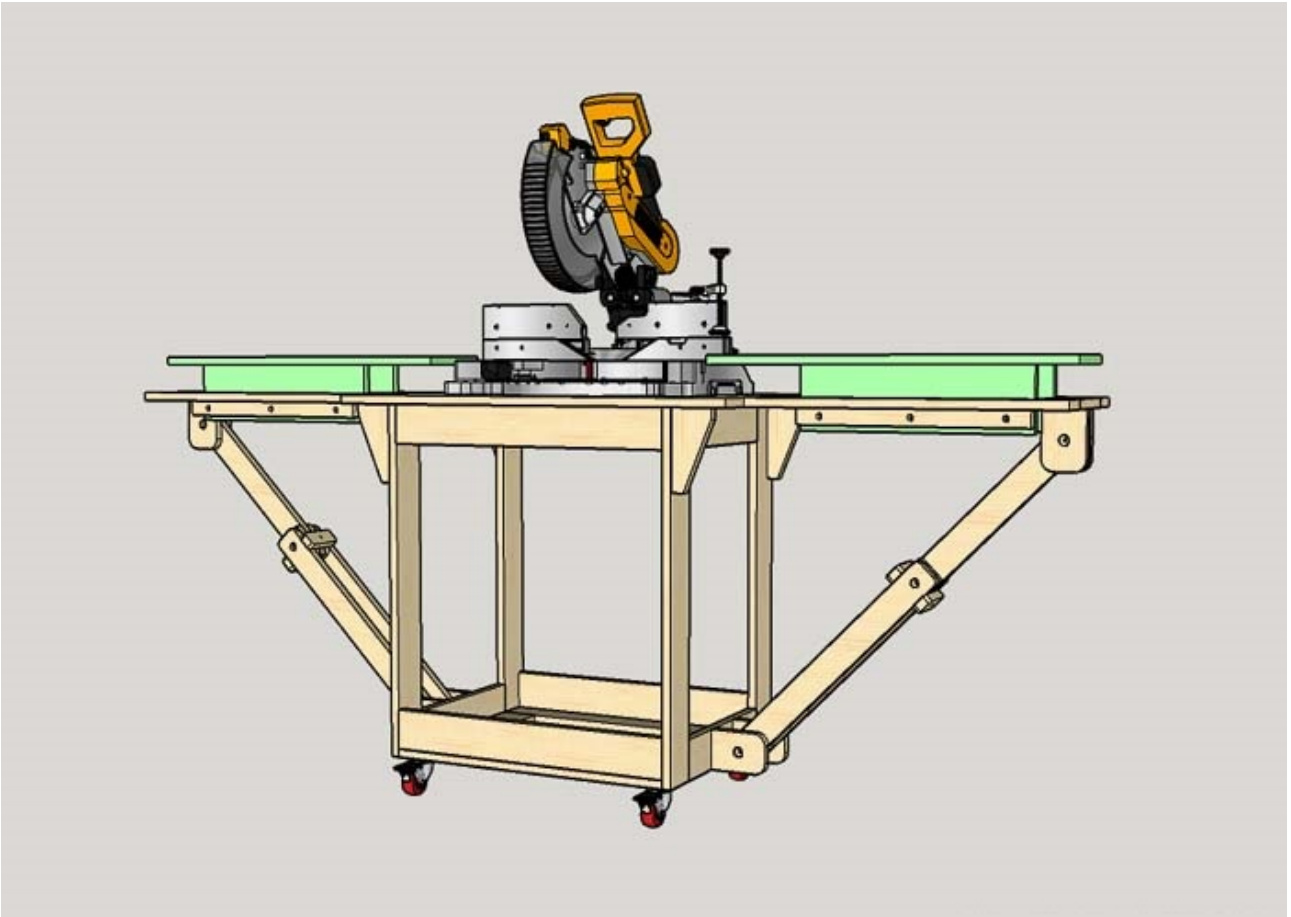
The wing table supports are based on the length of the wing table. Measure from the side of the wing table that will extend over the base of the stand to the outside edge of the 1×6. Then, subtract a 1/4" from this measurement.

Cut 4 pieces of 1×2 to your dimension. I placed the supports on the underside of the wing tables. I used some scrap 1x material as spacers between the 1×6s and the 1×2s. Drill several countersink holes in the supports and attach using wood screws.



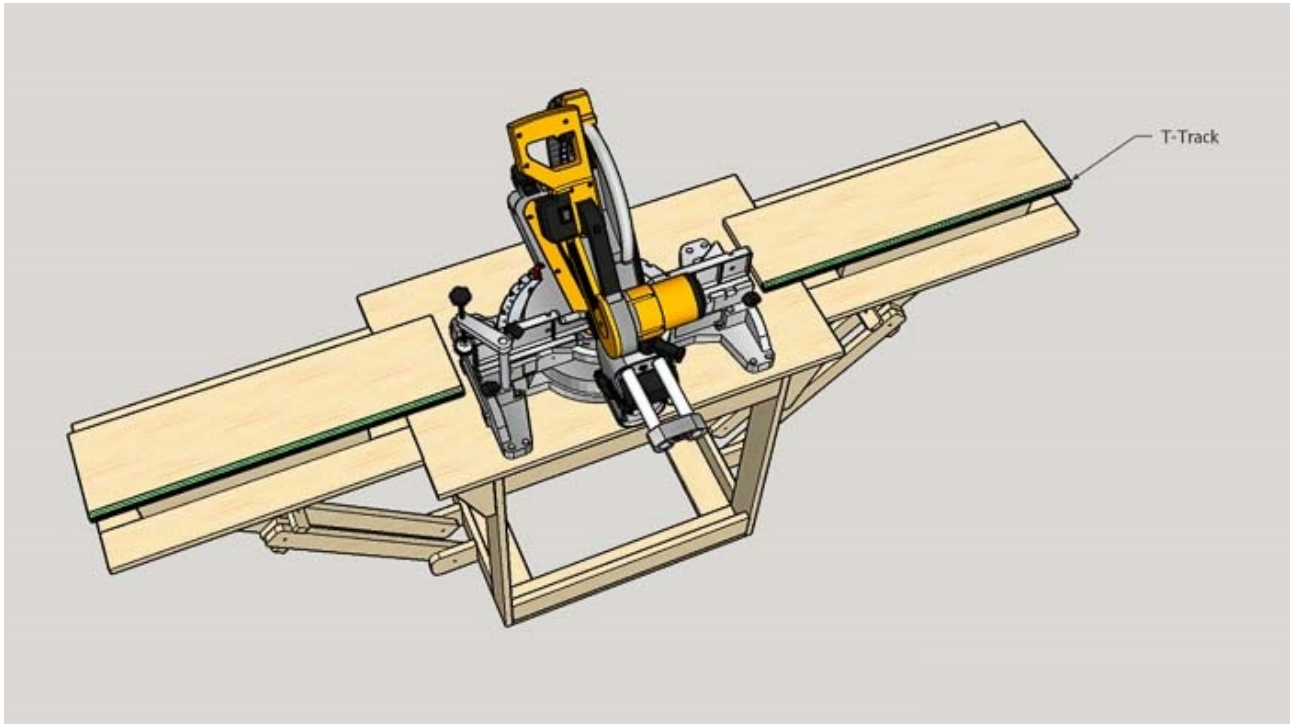
Step 20. Install the Wing Tables

Insert a wing table into the wing. Place a straight edge (I used a 6' level) across the miter saw table and adjust the wing until it's level with the miter saw table. Clamp the wing table to the wing and attach using washers and lag screws. Repeat for the other wing table.



Step 21. Attach the T-Track

Cut 2 pieces of T-track to match the length of the wing table. Position on the back of the wing table and clamp. Attach using wood screws.



Step 22. Make the Stop

Cut 1 piece of 1×3 and drill a hole in the center. Insert a bolt, washer and wing nut. Slide the assembly onto the t-track.

Cut 1 piece of 1×2 and drill two pocket holes on one end. Place on the wing table and center on the back of the stop. Clamp in position, flip over and attach using pocket screws.

I sanded a bevel on the bottom edge of the stop. This will prevent sawdust from building up in front of the stop.

